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March 27, 1957
Proposal No. RD-55

25X1

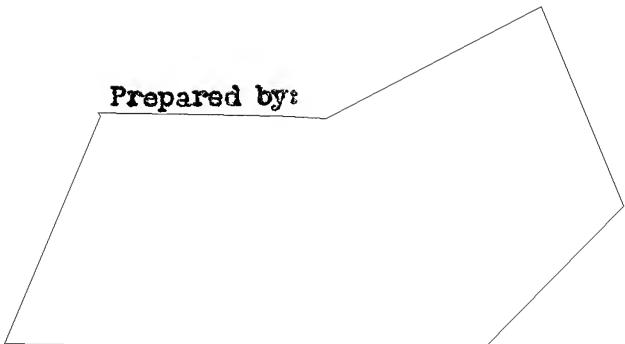
PORTABLE

RECORDER-REPRODUCER

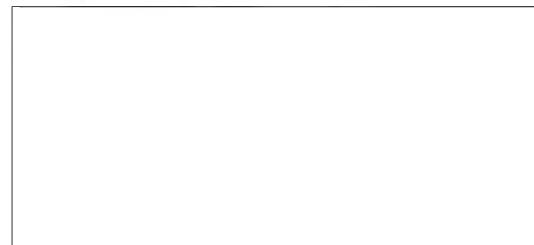
UNIT

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Prepared by:



Approved by:



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DOC <u>45</u>	REV DATE <u>18 July 80</u>	BY <u>0000447</u>
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ORIG CLASS <u>5</u>	DIS <u>9</u>	REV CLASS <u>C</u>
JUST <u>22</u>	NEXT REV <u>2010</u>	AUTH: <u>HR 70-2</u>

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~~SECRET~~**CONFIDENTIAL****PORTABLE RECORDER-REPRODUCER UNIT****INTRODUCTION**

This proposal covers the design and fabrication of 25 units of a portable tape recorder-reproducer equipment and accessory kit to be mounted and incorporated in a conventional man's suitcase. The equipment will have provisions for remote actuation of the recorder unit as well as dual microphone input and phone output. The accessory kit supplied will include microphones, basic service tools, instruments, and operating spare parts for field maintenance purposes. The entire unit will be designed with the objective of providing a completely packaged monitoring unit capable of field service in a convenient form.

DESIGN SPECIFICATIONS

1. The equipment will consist of a tape recorder-reproducer, two auxiliary connecting and control panels and an accessory kit all housed in a conventional 26 inch suitcase covered with suitable fabric so that the outside appearance will not in any way suggest a special installation.

2. The tape recorder-reproducer unit will be a half track, 110V 60~, Ampex Model 601U - 3-3/4 inch per second tape speed, modified for mounting in the suitcase and equipped with controls and additional circuitry as specified further.

3. The following additional circuitry and controls will be provided:

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- a. Remote Start and Operation of recorder-reproducer unit.
- b. Provision for dual microphone input.
- c. Provision for dual headphone output with individual volume control.
- d. Separate On-Off control for recorder-reproducer drive motor and B² Supply.
4. All additional circuitry and controls listed will be mounted on two auxiliary panels within the suitcase, one panel containing the dual microphone input, the other containing all of the remaining additional circuitry and controls.
5. The suitcase mounting arrangement will provide spare parts and accessory equipment stowage in such form that the equipment will be capable of transportation without injury to the instruments and parts. A list of the spare parts and accessories to be furnished with each recorder-reproducer unit is appended to this proposal.
6. A manual of Operating and Field Maintenance Instructions will be prepared and furnished with each recorder-reproducer unit.
7. A standard Ampex Recorder-Reproducer Manual for Model 601U will also be furnished with each equipment.
8. An illustrated Instruction and Operating sheet will be mounted in the suitcase cover where it may be readily seen by the operator.

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~~SECRET~~~~CONFIDENTIAL~~GENERAL DESCRIPTION

A preliminary layout of the equipment described is shown in Figure 1 attached. All of the panel equipment and the recorder-reproducer will be mounted firmly to suitcase sides and bottom, utilizing shock and vibration mountings and supports. All controls and connection points will be clearly marked for easy identification by the operator. The additional circuitry for the two auxiliary panels is shown in schematic form in Figures 2 and 3 respectively, attached. Auxiliary Panel No. 1 will contain two paralleled jack positions for microphone inputs.

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Auxiliary Panel No. 2 provides a dual headphone output with individual volume controls as well as a jack for a remote control switch for operation of the recorder-reproducer. This panel will also contain a battery compartment for the remote actuating relay battery supply, a switch for the recorder motor and a fused line for the recorder AC power cable. There is also provided a line input jack for microphone input. Neon indicator lamps will be mounted for operational indication. Operation of the Ampex recorder-reproducer will be in accordance with procedures listed in the Ampex manual.

A footage remaining indicator will be provided by mounting a calibrated plate on the recorder deck under the tape supply reel so that as tape is reeled off, the footage remaining can be read directly from the plate.

In all instances the design and construction of the entire equipment will be accomplished utilizing the best engineering and commercial practices to provide a unit of long life and high reliability. The

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arrangement of units in the case will be made to give a proper balance of weight for carrying. Consideration of the conditions of equipment service will govern the mechanical and electrical design and selection of material and components. Where possible, the use of corrosion resistant material, hardware and plating will be observed and vibration and shock protecting fasteners and mountings will be specified. Spare parts and accessory instruments will be stowed in spring clip and strap mountings for firm support and retention during transportation of the case.

The suitcases will be supplied in protective polyethylene covers

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PORTABLE RECORDER-REPRODUCER UNIT

Accessories and Spare Parts

- 2 "Mini-Mix" units
- 6 Spare fuses 1 amp 3AG
- 1 Shielded Patch cord - 6 feet long
- 1 Spare 6 volt battery unit (mercury type)
- 1 Remote actuator cord - 25 ft. long, telephone plug one end, switch on other.
- 2 Spare plastic empty reels for tape machine.
- 2 Microphones, Electro-voice # 630 with cables 6 feet long and equipped with telephone plug connectors
- 1 Ampex Manual
- 1 Operations and field maintenance manual for modified unit
- 1 Can of tape machine lubricating oil
- 1 Bottle Head cleaner
- 2 5879 tubes
- 2 12AY7 tubes
- 2 Phillips #1 Screwdrivers
- 1 $\frac{1}{4}$ x 6" Screwdriver
- 1 Krauter miniature diagonal cutting pliers
- 1 " " needle nose
- 1 " " Long flat nose
- 1 Speedex wire stripper
- 1 Polyethylene bag for suitcase storage protection
- 1 Volt-Ohmmeter 20,000 ohms per volt, Simpson 260
- 1 PENCIL SOLDERING IRON - UNGAR #176 W/ 1235 HEAT UNIT AND
- 3 Spare pyramid tips and small roll rosin core solder
- 1 Small roll scotch #33 insulating tape

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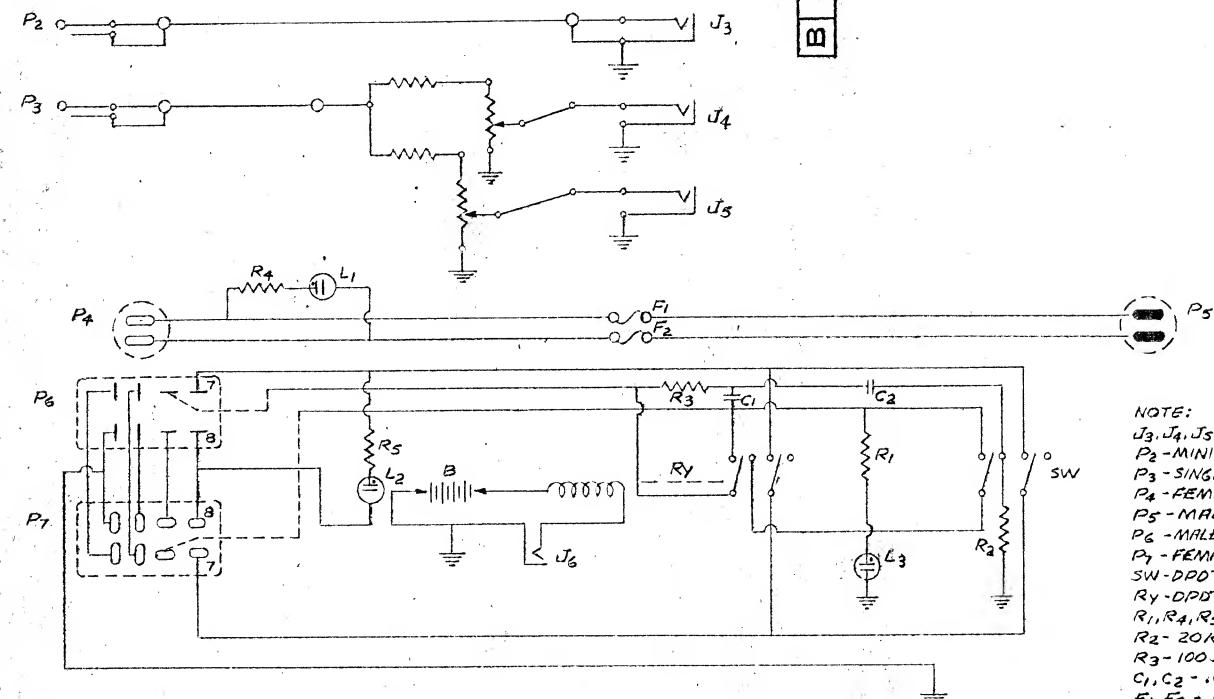
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UNLESS OTHERWISE NOTED REMOVE BURRS BREAK CORNERS TOLERANCES: FRAG. DIM. $\pm 1/64$ DECIMAL DIM. $\pm .005$ ANGULAR DIM. $\pm 1^\circ$		A	
NOTE: J_1, J_2 - SINGLE - CIRCUIT TELEPHONE JACK P_1 - AMPHENOL 86 - PM 3			

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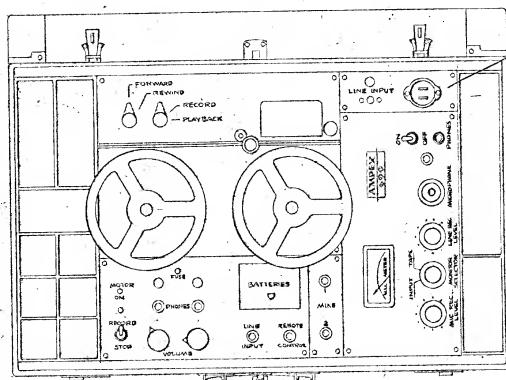
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BURRS BREAK CORNERS
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C. DIM. 1/64
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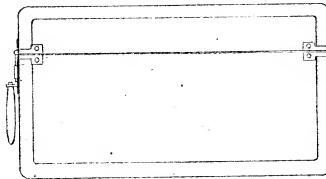
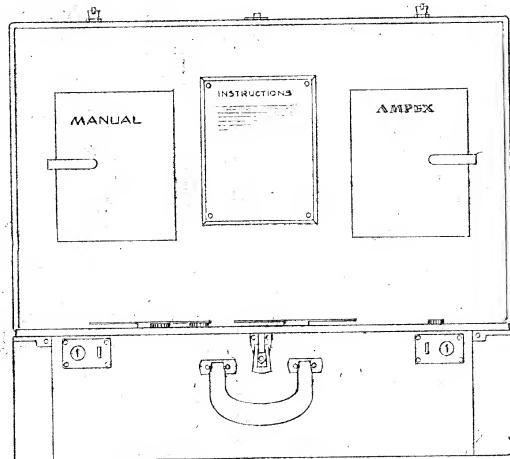
NOTE:
J₃, J₄, J₅, J₆ - SINGLE-CIRCUIT TELEPHONE JACK.
P₂ - MINIATURE SINGLE-CIRCUIT TELEPHONE PLUG.
P₃ - SINGLE-CIRCUIT TELEPHONE PLUG.
P₄ - FEMALE AC PLUG.
P₅ - MALE AC PLUG.
P₆ - MALE 8 WIRE PLUG, CINCH-JONES P-308, FHT-L
P₇ - FEMALE 8 WIRE PLUG, CINCH-JONES P-308, FHT-K
SW - DPDT TOGGLE
Ry - DPDT BATTERY OPERATED
R₁₁, R₄, R₅ - 410 K
R₂ - 20 K 10W.
R₃ - 100 K
C₁, C₂ - .01 μ F 600V. CONFIDENTIAL
F₁, F₂ - 1 AMP 3AG
L₁, L₂, L₃ - NEON LAMP
B - BATTERY, TO RELAY

					NO. REQ'D	DATE 3-18-57	SCALE			
					MATERIAL		CKD.			
					FINISH		ENG.			
SYM.	DATE	REVISION	BY	APP'D	TREAT.		APP'D.	NEXT ASSY	SIZE B	NUMBER

OTHERWISE NOTED
URS BREAK CORNERS
S:
DIM. \$1.64
AL DIM. \$0.05
ULAR DIM. \$1.2



Elevated 90°
show connection?



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